

DEPARTMENT OF THE AIR FORCE
PRESENTATION TO THE SUBCOMMITTEE ON FEDERALISM
AND THE CENSUS

COMMITTEE ON GOVERNMENT REFORM
UNITED STATES HOUSE OF REPRESENTATIVES

SUBJECT: AIR FORCE INSTITUTE OF TECHNOLOGY: A MODEL
FOR COORDINATING GOVERNMENT, INDUSTRY AND
UNIVERSITY EXPERTISE TO SUPPORT OUR WAR
FIGHTERS

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JULY 29, 2006

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BY THE COMMITTEE ON GOVERNMENT REFORM
UNITED STATES HOUSE OF REPRESENTATIVES

**AFRL WRITTEN STATEMENT
TO THE
COMMITTEE ON GOVERNMENT REFORM
REGARDING
THE PARTNERSHIP ACTIVITIES OF
THE AIR FORCE RESEARCH LABORATORY
AND
THE AIR FORCE INSTITUTE OF TECHNOLOGY**

***"The Air Force Institute of Technology: An Intergovernmental Model for Today's
Military Education."***

July 29, 2006

The Air Force Research Laboratory (AFRL) and the Air Force Institute of Technology (AFIT) have a 50-year history of collaborative activities and engagement, motivated by a common interest in maintaining and advancing the technological superiority of the Air Force. The breadth and depth of cooperative activities is on the up-swing. The increased collaboration has recently been codified with the consolidation of 10 individual agreements into a single corporate memorandum of agreement. This agreement cleared the path for streamlined access and resource sharing among AFIT and the AFRL's numerous sites across the United States. Key elements of the agreement include joint development of personnel expertise and competencies in research areas of mutual interest, and definition of the support required for major collaborative research programs and shared facilities. The agreement also includes regular review and highlighting of partnership accomplishments along with identification of opportunities for multi-partner teaming with other organizations to accomplish research objectives. Overall, the agreement solidifies the long standing relationship and common goals that both

organizations share and allows each organization to more fully leverage world-class resources.

RESOURCE COLLABORATION

A vital part of the collaboration is the inflow of AFIT graduates to AFRL upon completion of their basic and advanced degrees. This inflow of students brings program managers, scientists, and engineers in various stages of their careers to work in AFRL, thus providing a critical part of our workforce. One hundred and seven new AFIT graduates were assigned to AFRL in FY05--a three-fold increase from FY03, and a trend that we would like to see continue.

The exchange of personnel between AFIT and AFRL has not been a one-way street. AFRL personnel have held adjunct faculty appointments in AFIT, sponsored research, and served as advisors to AFIT on a wide range of academic and research issues. AFIT student research has supported AFRL research programs and AFIT faculty members have developed research and educational programs to support the AFRL community. The two groups have share co-located libraries and some research facilities. Each organization has an interest in enhancing collaboration by establishing a holistic approach; including developing repeatable processes with specific goals that are assessed at a strategic partnership review on a regular basis. While AFIT and AFRL technology directorates have performed coordinated research programs for many years, we continually seek to increase the mutual benefits that can be attained from the partnership.

AFRL provides AFIT nearly \$4M in annual research funding across all of our Technology Directorates. This funding amount has more than doubled over the past

several years. The AFIT Research Support Fund agreement provides AFIT with resources that allow AFIT faculty and students to contribute to the Air Force basic research program. The agreement also facilitates new faculty start-ups and development of new areas of research.

NEW EDUCATION OPPORTUNITIES

AFRL and AFIT are investigating new opportunities, including Fellowship and Scholarship programs, to attract students, scientists and engineers to both AFIT and AFRL. In addition, both organizations are investigating the establishment of AFIT education opportunities for AFRL members. These new opportunities will be jointly developed, fall within each organization's funding capabilities, and be tailored to the unique needs of AFRL through distance learning or on-site courses.

AFIT OUTREACH INCREASING

With an AFIT Operating Location opening at Kirtland in 2003, AFIT outreach programs at AFRL are increasing. Currently, a System Engineering Certificate Program is available at both Wright-Patterson and Kirtland AFB. The center at Kirtland allows partnership with University of New Mexico for follow-on degrees in Electrical Engineering, along with AFIT Directed Energy and optics courses, which are available to AFRL members. An Operational Technology (OPTEC) Certificate Program is taught on Wright- Patterson AFB. Planned programs include expansion of the Systems Engineering Certificate Program to Eglin AFB in 2006 and a Certificate Program in Advanced Navigation at Wright-Patterson in 2006.

THIRD PARTY PARTNERSIPS

AFRL and AFIT continue to develop third party and local community partnerships. One example is the Dayton Area Graduate Studies Institute, an Ohio Student-Faculty Engineering Research fellowship. AFIT faculty collaborated on 35 research programs sponsored by DAGSI, most tied to AFRL topics. The Measures and Signals Intelligence (MASINT) Development Consortium is a collaboration between National Air and Space Intelligence Center (NASIC), AFIT and AFRL. In addition, an effort is under development between the Wright-Brothers Institute, AFRL, University of Dayton, and AFIT to further research related to laser communications and laser radar.

Finally, the Advanced Navigation Technology Laboratory has 21 AFIT faculty members from three different departments with 43 active projects and about 30 students with sponsorship from AFRL, NASIC, and other DoD agencies. Central themes are Inertial Navigation System Exploitation and Precision Navigation—anywhere, using anything. This will be critical to the Air Force’s new Technology Vision to “anticipate, find, fix, track, target, engage and assess anything, anytime, anywhere.” How does this benefit AFRL? By increasing inter-directorate collaboration, promoting external collaboration and, enhancing AFRL’s in-house research capabilities. The program will also impact AFRL’s Focused Long Term Challenges—these are the fundamental research efforts that will provide the capabilities the Air Force will need over the mid and long term.

Technology challenges being solved by ANT include: vision-based navigation, collision avoidance, vision-based control and stabilization, wide-field of view sensing-situational awareness, human supervision of time-critical control systems, agile micro vehicles, and cooperative path planning in adversarial environments.

NEW RAPID PRODUCT DEVELOPMENT EFFORT

A new effort titled the AFIT/AFRL Center for Rapid Product Development is underway to allow graduate students to work on real Air Force operational problems in conjunction with AFRL scientists. Particular focus areas will be on rapid technology transition and product development cycle-time reduction. Students will learn the principles of project management and demonstrate the ability to develop and field new products and systems. This process merges AFIT's need to educate Airmen on key problems with AFRL's new Rapid Reaction Process to provide real-time solutions to urgent warfighter needs within 18 months. Two pilot efforts are underway and are being successfully demonstrated today.

CONCLUSION

The bottom-line is that AFRL and AFIT have a very effective partnership and are working to make it even greater. Both organizations have a critical role in creating the Air Force of the future, and together are solving future technological challenges.